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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/776,191	02/12/2004	Xiaoding Ma	50103-575	2663

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EXAMINER
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BERNATZ, KEVIN M

ART UNIT	PAPER NUMBER
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1773

DATE MAILED: 04/03/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/776,191

Applicant(s)

MA ET AL.

Examiner

Kevin M. Bernatz

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) 1-8 and 14-19 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 9-13 and 20 is/are rejected.
- 7) ☒ Claim(s) 20 is/are objected to.
- 8) ☒ Claim(s) 1-20 are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 2/12/04.
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_.

## **DETAILED ACTION**

### ***Election/Restrictions***

1. Applicant's election with traverse of Group II, claims 9 – 13 and 20 in the reply filed on January 19, 2006 is acknowledged. The traversal is on the ground(s) that the restriction is improper because an intermediate product "typically" loses its identity in the final product. This is not found persuasive because "typically" is not the same as "always" and, while the Examiner acknowledges that in most cases applicants. The requirement is still deemed proper and is therefore made FINAL.

### ***Double Patenting***

2. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

3. Claims 9 – 13 and 20 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1 - 9 of U.S. Patent No. 6,613,422 B1 (Ma et al.). Although the conflicting claims are not identical, they are not

patentably distinct from each other because the range of greater than 2.0 gms/cm<sup>3</sup> encompasses greater than 2.5 gms/cc<sup>3</sup>.

Regarding the limitation(s) of the nitrogen-to-carbon ratio, the Examiner notes that the disclosure of Ma et al. teach(es) that the claimed invention is an obvious variation of the disclosed invention (*Figure 5 and col. 10, lines 1 - 11*).

Applicants are reminded that while it is generally prohibited from using the disclosure of a potentially conflicting patent or application in an Double Patenting analysis, there are two exceptions permitted by the MPEP. Specifically, "those portions of the specification which provide support for the patent claims may also be examined and considered when addressing the issue of whether a claim in the application defines an obvious variation of an invention claimed in the patent". In the instant case the above referred to specification sections support the patent claims that direct one to add nitrogen to the layer but don't explicitly teach how much nitrogen should be added.

### ***Claim Objections***

4. Claim 20 is objected to because of the following informalities: claim 20 includes subject matter from withdrawn claims. Applicants are requested to amend claim 20 to incorporate the subject matter of claims 14, 15 and 16. For the purpose of evaluating the prior art, the Examiner has interpreted claim 20 as including the full subject matter of claims 14 – 16.

***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 9 – 13 and 20 are rejected under 35 U.S.C. 102(a) and/or (e) as being anticipated by Ma et al. (U.S. Patent No. 6,613,422 B1).

Regarding claims 9 – 13 and 20, Ma et al. disclose the claimed invention as noted above with regard to the double patenting rejection (*i.e. see claims 1 – 9, Figure 5 and col. 10, lines 1 – 11*). The additional specification section that discloses the claimed invention is col. 5, line 1 bridging col. 6, line 44.

7. Claims 9 – 13 and 20 are rejected under 35 U.S.C. 102(a) and/or (e) as being anticipated by Fujimaki et al. (U.S. Patent App. No. 2003/0228496 A1).

Regarding claim 9, Fujimaki et al. disclose a recording medium (*Title*) comprising a substrate having at least one surface, a stacked plurality of thin film layers on said at least one surface thereof, said layers including at least one magnetic or MO recording layer, and a protective overcoat layer on an outer surface of an outermost layer of said stacked plurality of thin film layers (*Paragraphs 0061, 0062 and 0066*), wherein said

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protective overcoat layer comprises a first sub-layer ( $c_1$ ) of undoped tetrahedral amorphous carbon (ta-C) (*Paragraphs 0029 – 0031, 0048, 0062 and 0066 – “first protective film”*) on said outer surface of said outermost layer of said stacked plurality of thin film layers and having a mass density of carbon atoms greater than about 2.5 gms/cm<sup>3</sup> (*Paragraphs 0005, 0048, 0061, 0062 and 0066*), and a second sub-layer ( $c_2$ ) of nitrogen-doped tetrahedral amorphous carbon (ta-C:N) (*Paragraphs 0061, 0062 and 0066: - “second protective film”*) on said undoped ta-C layer and having a high mass density of carbon atoms greater than about 2.0 gms/cm<sup>3</sup> (*Paragraphs 0005, 0039, 0061, 0062 and 0066*).

Regarding claims 10 and 20, Fujimaki et al. disclose a N/C ratio meeting applicants' claimed limitations (*Paragraphs 0006, 0061 and 0062*).

Regarding claims 11 - 13, Fujimaki et al. disclose thickness values meeting applicants' claimed limitations (*Paragraphs 0005, 0039, 0061, 0062 and 0066*).

8. Claims 9 – 13 and 20 are rejected under 35 U.S.C. 102(e) as being anticipated by Jairson et al. (U.S. Patent No. 6,855,232).

Regarding claim 9, Jairson et al. disclose a recording medium (*Title*) comprising a substrate having at least one surface, a stacked plurality of thin film layers on said at least one surface thereof, said layers including at least one magnetic or MO recording layer, and a protective overcoat layer on an outer surface of an outermost layer of said stacked plurality of thin film layers (*Figure 2, elements 100, 104 and 108a and b*), wherein said protective overcoat layer comprises a first sub-layer ( $c_1$ ) of undoped

tetrahedral amorphous carbon (ta-C) (*element 108a; col. 2, lines 7 – 43; and col. 3, lines 18 - 27*) on said outer surface of said outermost layer of said stacked plurality of thin film layers and having a mass density of carbon atoms greater than about 2.5 gms/cm<sup>3</sup> (*col. 3, lines 43 - 49*), and a second sub-layer (c<sub>2</sub>) of nitrogen-doped tetrahedral amorphous carbon (ta-C:N) (*col. 3, lines 18 – 27 and col. 5, lines 32 - 45*) on said undoped ta-C layer and having a high mass density of carbon atoms greater than about 2.0 gms/cm<sup>3</sup> (*col. 3, lines 43 - 49 – taught to possess a mass density of up to 2.1 gms/cc<sup>3</sup>*).

Regarding claims 10 and 20, Jairson et al. disclose a N/C ratio meeting applicants' claimed limitations (*col. 8, lines 23 - 38*).

Regarding claims 11 - 13, Jairson et al. disclose thickness values meeting applicants' claimed limitations (*col. 3, lines 18 – 27 and col. 4, line 56 bridging col. 6, line 45*).

### **Conclusion**

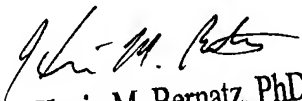
9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin M. Bernatz whose telephone number is (571) 272-1505. The examiner can normally be reached on M-F, 9:00 AM - 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carol Chaney can be reached on (571) 272-1284. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

KMB  
March 30, 2006

  
Kevin M. Bernatz, PhD  
Primary Examiner